

# Malcolm Turnbull's view of the temperature and sea levels of Sydney, 1788 to 2015

*Sydney  
Harbour*

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# Executive Summary

Malcolm Turnbull's message to the Climate Conference in Paris, 2015.

As a resident living on the southern shore of one of the finest harbours in the world, Malcolm is in a perfect position to view and appreciate the moods of weather and climate of this waterway and nearby beaches. He has acknowledged new data on temperature and tides, and he is now able to declare as follows:

**In my home town of Sydney, there has been. . .**

- 1. No change in the trends of monthly maximum and minimum temperatures for a period of 227 years, from 1788 to 2014, and this is reluctantly supported by Messrs Karoly and Gergis, two of our leading climate alarmists .*
- 2. No significant sea level rise in the harbour for the past 120 years, and what little there has been is about the height of a matchbox over a century.*
- 3. And finally, along the northern beaches of Sydney, there has been no suggestion of any sea level rise there for the past 140 years.*



**Malcolm Turnbull** (*Figure 1*) is the Prime Minister of Australia, a position he acceded to in September 2015 by deposing former Prime Minister Tony Abbott in an internal party coup ; with Abbott flagging in the polls, Turnbull called for a spill of leadership, and won the subsequent ballot of Liberal Party members of Parliament by a comfortable majority. The Liberal party forms a conservative centre-right government of Australia in coalition with the agrarian National Party, (collectively the *LNP*) and in the two months since taking over as Prime Minister, Mr Turnbull has pushed the Coalition into an election-winning lead, and he leads his Labour opposition leader Bill Shorten as preferred Prime Minister by a huge 75% to 25% margin. The National Party could not vote in the leadership battle, but did insist that in the event of a Turnbull win, the skeptical climate policies of Mr Abbott should remain unchanged. This issue looms as a political timebomb, as Malcolm behaves at times as a green-tinged lukewarmist.



*Figure 1*

LNP supporters fear a possible sellout by Turnbull to the warmist policies of his hapless political foe Bill Shorten, who proposes a 50% renewable energy target for a fossil-fuel rich country like Australia.

Recent history shows that climate matters have impinged strongly on the political career of Mr Turnbull. As first a lawyer and then a partner in Goldman Sachs, Turnbull entered Parliament in 2004, and became Opposition Leader in September 2008, at a time when the dysfunctional leftist governments of Kevin Rudd and Julia Gillard were badly managing the affairs of Australia. In November 2009 Turnbull suggested that the Opposition parties should support Rudd's proposal for a Carbon Pollution Reduction Scheme (CPRS), a proposal which caused rebellion in the Liberal Party ranks. A leadership spill was called, and Turnbull lost the ballot for leader 42 to 41 votes to Tony Abbott, who went on to become Prime Minister at the 2013 election. Abbott lasted two years before the Liberal Party once again turned to Malcolm Turnbull to replace Abbott as Prime Minister. **The question remains—can Mr Turnbull be re-educated to embrace the scepticism of his predecessor Tony Abbott?**

# 1: Malcolm Turnbull's views of Sydney temperature and sea levels

We make the point that Malcolm Turnbull lives at Point Piper, on the southern foreshore of Sydney Harbour, in an imposing waterfront home with sweeping views to the west, north and east. From his front verandah he might just see to the west-northwest the white sails of the Sydney Opera House in Sydney Cove, and the nearby Sydney Observatory, home to temperature measurement since at least 1859; to the northwest he can see the small harbour island of Fort Denison, on which is mounted the official tidal gauge for the harbour, operating since 1886; to the north, with a stretch of his neck, Malcolm could make out the headlands and beaches such as Manly and Collaroy, where the history of sea level rise and fall may be observed for at least the past 140 years. In short, everything about the climate history of Sydney is laid out as a superb panorama in front of his very eyes. Let him take these observations and implications with him to the COP 21 meeting in Paris, 2015.

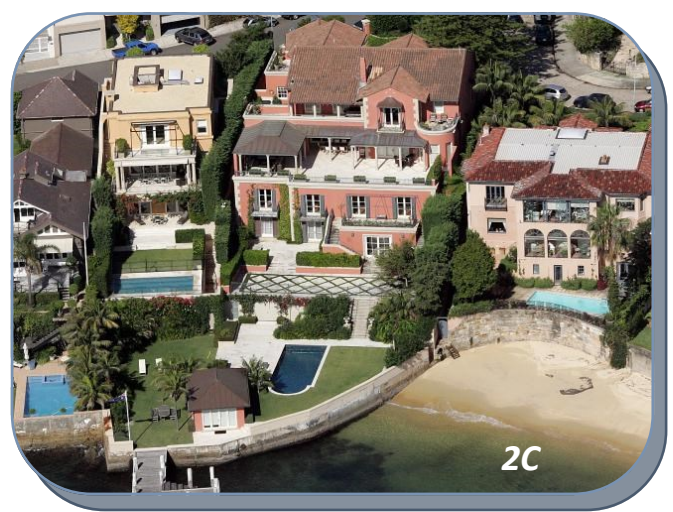
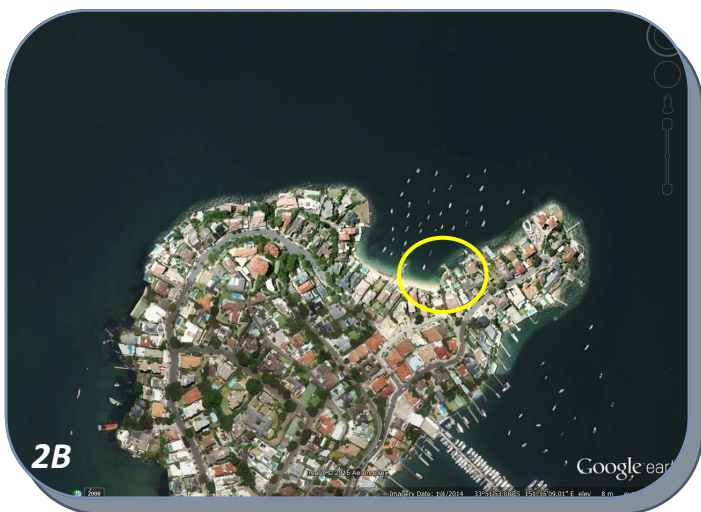
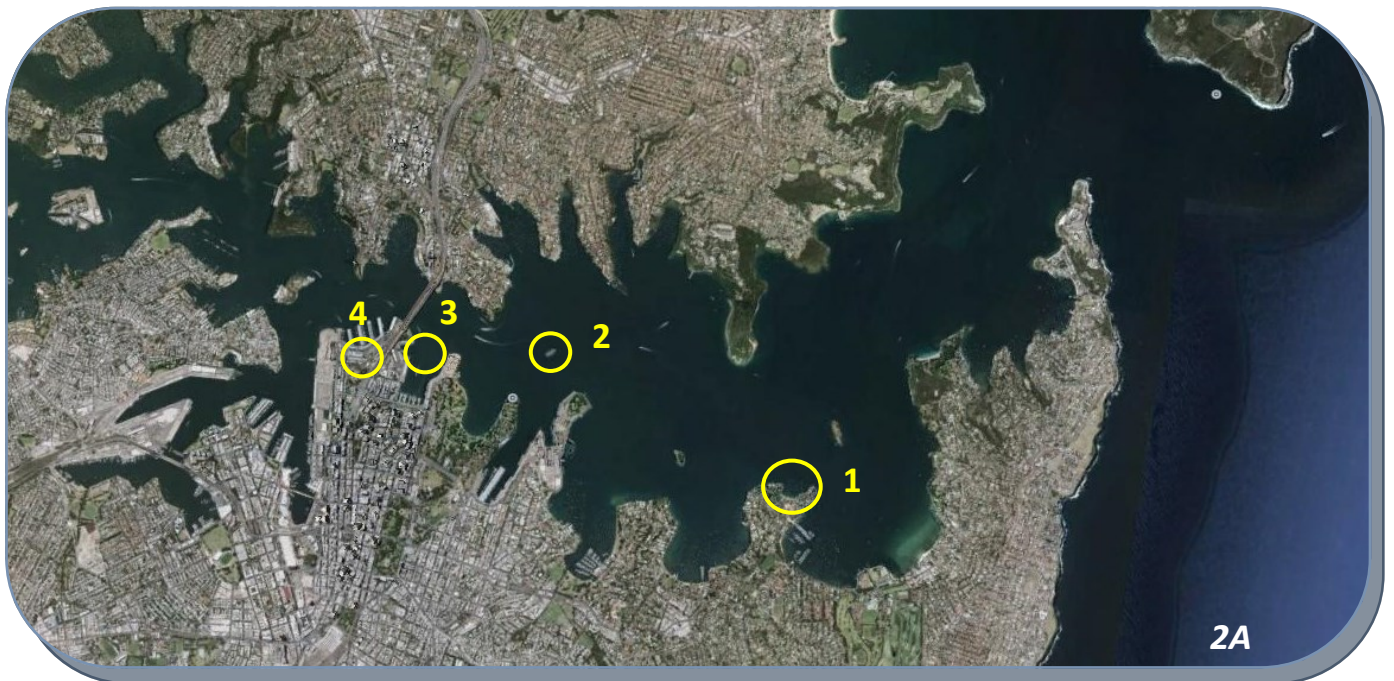


Figure 2A: Circled areas include (1) Point Piper, where Mr Turnbull lives : (2) is Fort Denison: (3) is Sydney Cove: and (4) is Observatory Hill. 2B: Detail of Point Piper, and (2C) Mr Turnbull's waterfront home ( reddish colour, centre)..

## 2: Establishing Temperature Measurement in Sydney 1788 – 1791

Australia was colonised by the British in 1788, following the recommendations of Captain James Cook, who sailed up the east coast of Australia in 1770. The First Fleet, commanded by Captain Arthur Phillip, passed majestically up the harbour looking for a suitable landing spot at which to establish the new penal colony, watched no doubt by many of the Aboriginal population on headlands such as Point Piper, bemused by these ship-borne visitors who would be changing their lives forever.

Phillip landed at Sydney Cove on 26th January 1788, and raised the Union Jack, taking possession of the land for Britain and calling the landing site 'Sydney' (Figure 3). This view would be to the north.

An officer with Phillip, William Bradley, was responsible for taking temperature measurements on board the ship *Sirius* anchored in Sydney Cove, commencing on 27th

January 1788, and continuing until 14th September 1788, when a land-based observatory could be established nearby by William Dawes, who recorded temperatures 6 times per day over the period 14 September 1788 to 6th December 1791 (Gergis et al., 2009), at a site near the right of the painting shown in Figure 4, close to the present-day station at Observatory Hill, shown in Figure 4 as the central prominent hill at the top of the picture.

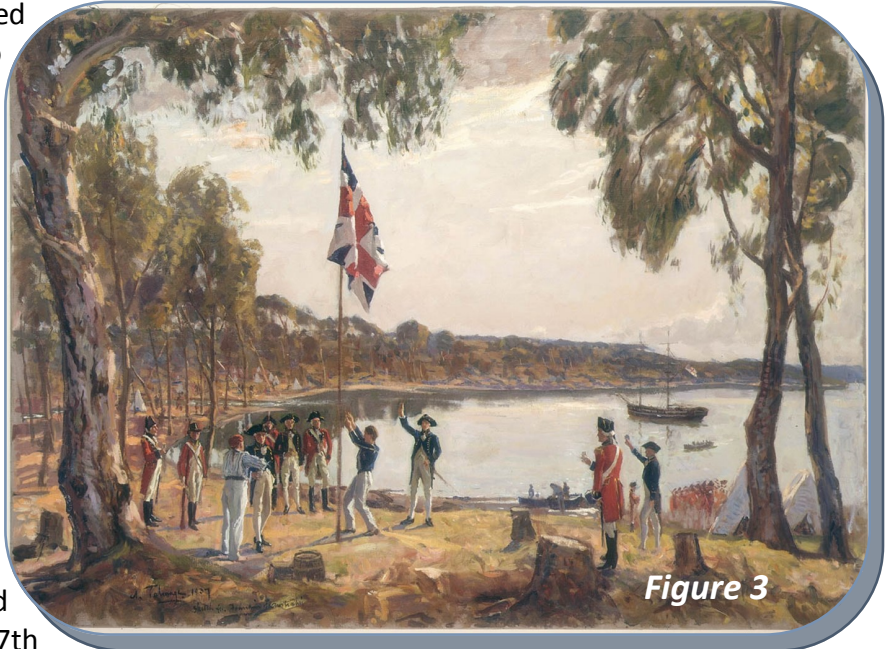


Figure 4: The First Fleet in Sydney Cove, 27th January 1788. Observatory Hill is the prominent hill in the central part of the painting, which is by John Allcot, painted in 1937. View is to the WSW.

### 3: Temperature data from Sydney 1788 – 1791

The temperature records of Bradley and Dawes at Sydney Cove were not discovered until 1977, when they were unearthed by a diligent researcher in the library of the Royal Society of London. The data were reassembled and organised by McAfee (1981), and have been described most recently by Gergis, Karoly and Allan (2009); two of these authors, Gergis and Karoly, are perhaps better known as publicity-seeking and occasional whining alarmist Australian academics who withdrew a paper from publication (*“Evidence of unusual late 20th century warming from an Australasian temperature reconstruction spanning the last millennium”* by Joelle Gergis, Raphael Neukom, Stephen Phipps, Ailie Gallant and David Karoly, accepted for publication in the *Journal of Climate*) following extensive criticism of their paper, notably by Steve McIntyre (see <http://wattsupwiththat.com/2012/07/14/see-if-you-can-find-the-legal-threat-to-david-karoly/>).

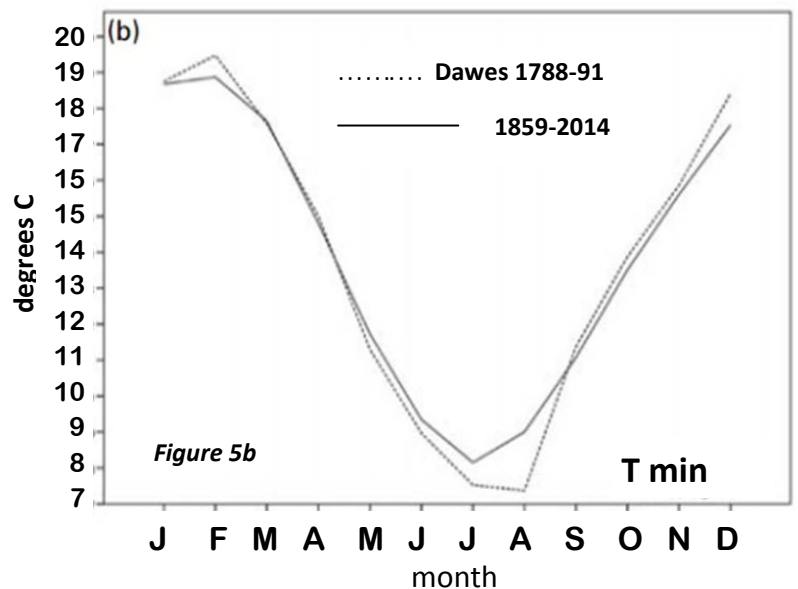
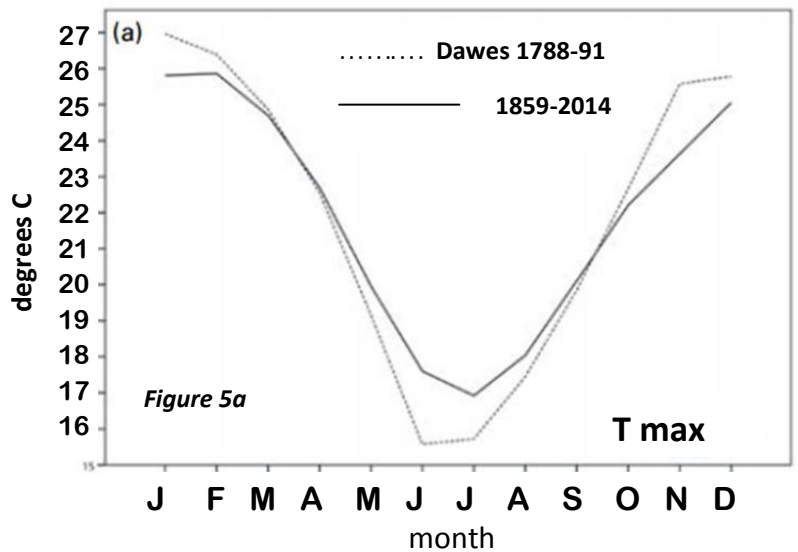
From the data of Dawes and Bradley assembled by McAfee, Gergis et al (2009) calculated average maximum and minimum temperatures records for each month over the period September 1788 to December 1791. Temperatures were taken up to 6 times per day, and the highest and lowest temperature for each day was recorded. Gergis et al note that because maximum and minimum thermometers were not in use at that time, the calculated maximum and minimum average temperatures can only be a close approximation to reality.

**Table 1**

Temperature data for Sydney Cove, 1788-1791—Monthly averages for Tmax and Tmin, as measured by Dawes and Bradley (McAfee, 1981, Gergis et al., 2009)

Monthly means (all years)	Tmean (°C)	Tmax (°C)	Tmin (°C)
January	22.9	26.9	18.8
February	22.9	26.4	19.5
March	21.2	24.9	17.6
April	18.8	22.6	15.0
May	15.2	19.2	11.3
June	12.3	15.6	9.0
July	11.6	15.7	7.5
August	12.4	17.4	7.4
September	15.6	19.9	11.4
October	18.2	22.6	13.8
November	20.7	25.6	15.9
December	22.1	25.8	18.4

Figure 5a,b: Basic plots of Tmax and Tmin for the period 1788-1791 at Sydney Cove, as listed in Table 1, shown as dotted lines. Data for the period 1859 to 2014, taken from the Australian Bureau of Meteorology (BOM) database, is also plotted as a full line. The graphs show that the First Fleet data is almost indistinguishable from the 1859 to 2014 data. (Gergis et al., 2009)



### 3: Temperature data from Sydney 1788 – 1791 - continued

Preceding graphs of Figure 5a and 5b are from Gergis et al., 2009. The inclusion of data for the period 1859 to 2014 was introduced by them with little fanfare, and further evaluation of this data is warranted. Figure 6 below shows tabulation of the Sydney Observatory data for the period 1859 to 2014.

**Weather observations at Sydney Observatory, 1859 to 2014. Comparisons can be made with temperatures for the period 1788 to 1791 by Dawes, as reported by Gergis, Karoly and Allen 2009 (Aust. Met & Ocean. Journal 58.2, June 2009.)**

View:	Main statistics		All available		Period:	Use all years of data												Text size:	Normal		Large	
Statistics	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Years	Plot							
Temperature																						
Mean maximum temperature (°C)	25.9	25.8	24.8	22.4	19.5	17.0	16.3	17.8	20.0	22.1	23.6	25.2	21.7	156	1859 2014							
Mean minimum temperature (°C)	18.7	18.8	17.6	14.7	11.6	9.3	8.1	9.0	11.1	13.6	15.6	17.5	13.8	156	1859 2014							

red = highest value; blue = lowest value

Figure 6: T max and Tmin data from Sydney Observatory for the period 1859 –2014, in degrees C; this data is shown in graphical form in Figures 7 and 8

Location: 066062 SYDNEY (OBSERVATORY HILL)

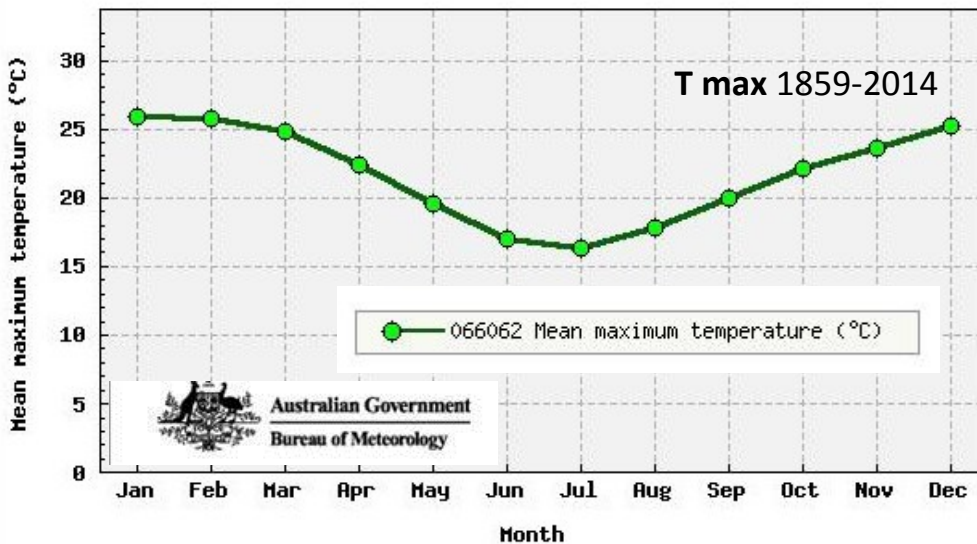


Figure 7: Plots of Tmax at Sydney Observatory for the period 1859 –2014, generated from BOM data shown in Figure 6; temperatures in degrees C.

Location: 066062 SYDNEY (OBSERVATORY HILL)

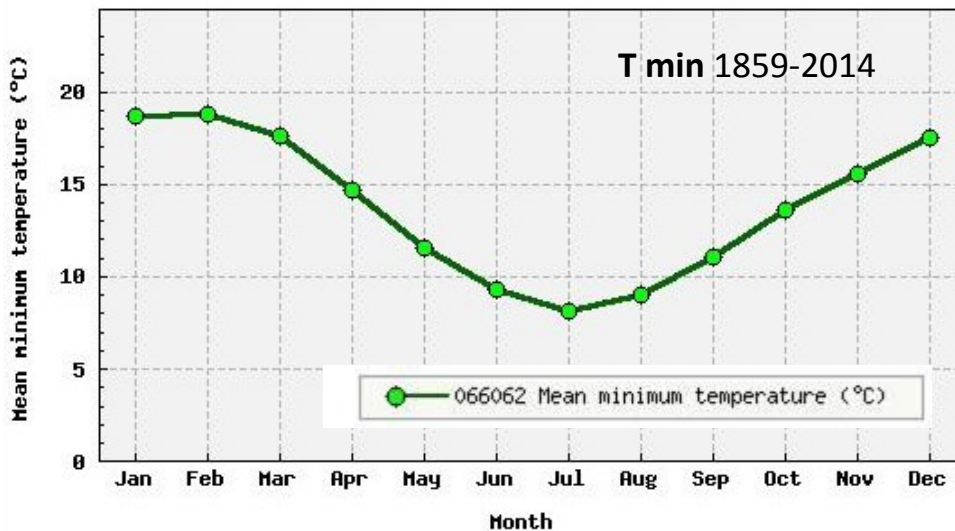


Figure 8: Plots of Tmin at Sydney Observatory for the period 1859 –2014, generated from BOM data shown in Figure 6; temperatures in degrees C.

## 4: Comparison of Temperature data from the First Fleet, Sydney 1788 – 1791 with BOM data 1859-2014

The relationship between First Fleet data with 1859-2014 data has been made previously in Figure 5a and 5b, but the presentation by Gergis et al 2009 is cryptic and lacks clarity.

In Figures 9 and 10 the same data is replotted, with the 1788-1791 data (RED circles) forming an overlay to the BOM data of 1859-2014 (green dots).

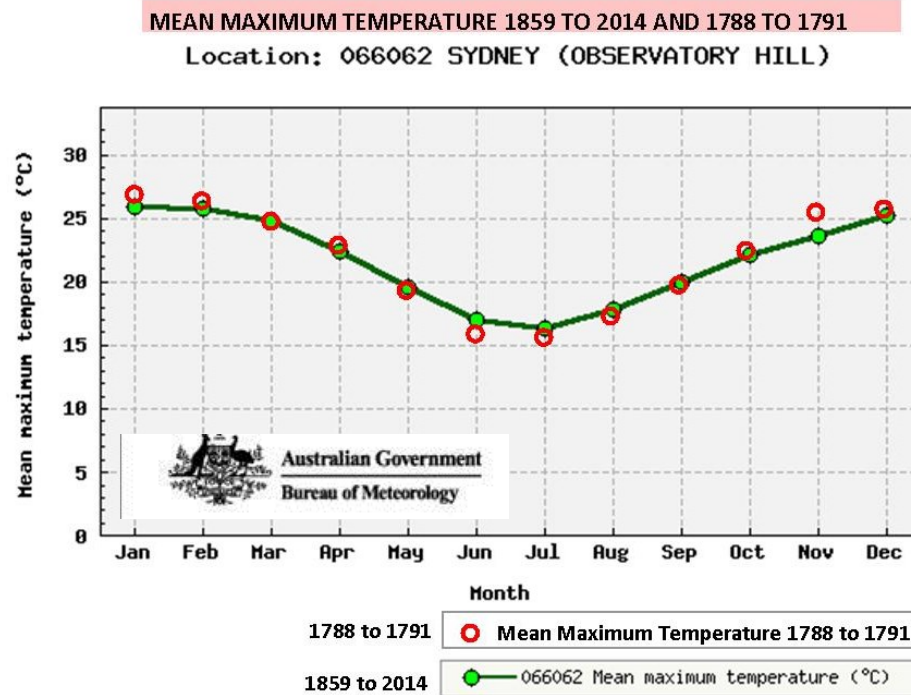


Figure 9: Tmax for the period 1788-1791 (red circles) compared with data for the period 1859 –2014 (green dots), in degrees C. The temperature averages for both periods are almost identical

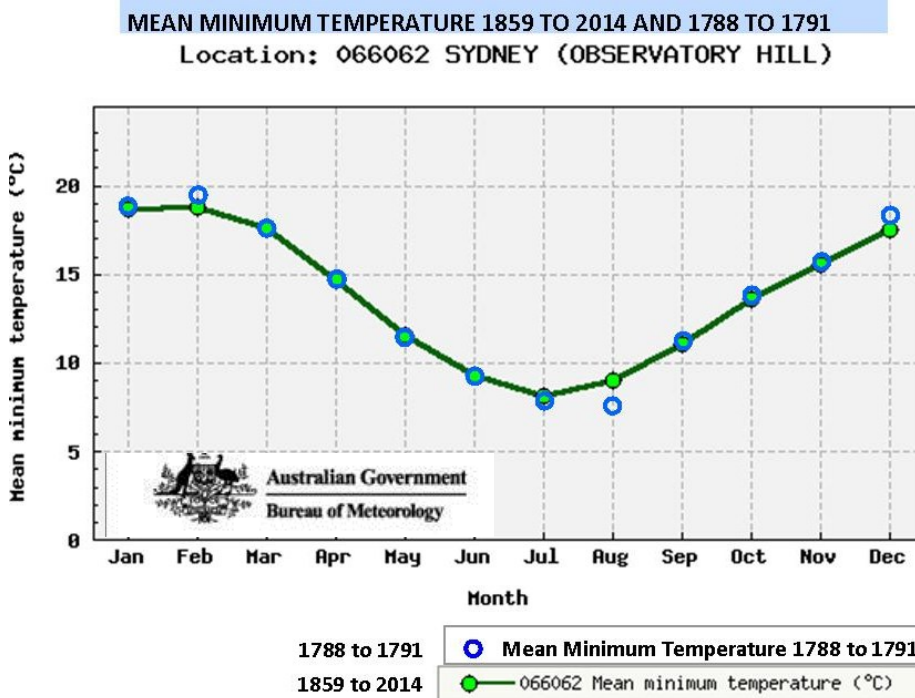


Figure 10: Tmin for the period 1788-1791 (blue circles) compared with data for the period 1859 –2014 (green dots), in degrees C. The temperature averages for both periods are almost identical

**CONCLUSION 1: Despite a 68-year gap in data from 1791 to 1859, we conclude that there has been NO significant change in temperature trends at the Sydney Observatory station for at least a period of 226 years, from 1788 to 2014.**



## 5: The Tide-gauge sea-level record in Sydney Harbour

From his house in Point Piper, PM Malcolm Turnbull has a distant view of Fort Denison to the WNW, the site of tide gauges in Sydney Harbour. It is an island of rock about 1 km east of Sydney Cove, and only a few hundred square metres in area. Captain Phillip named the island “Rock Island”. Not only did Captain Philip have competent recorders of temperature with him in the First Fleet—he also had stone masons and plenty of penal labour, and so he set to work quarrying the top from Rock Island in order to supply the new colony with building stone.

Although much smaller than the infamous Alcatraz, Philip also used the island for punishing convicts for perceived wrongdoings, and the meagre rations associated with this punishment gave name to the alternative name ‘Pinchgut’. With the island (Figure 11) now flattened, it became a splendid foundation for some fort building. The Fort was designed in 1839, and was built between 1841 and 1857, (You et al., 2009) characterised by the rounded Martello Tower popular in European fort-making in the 19th Century (*this should not be confused with the Australian racehorse ‘Martello Towers’ who was a flashing grey 3-year old when he won the Australian Derby in 1959*).



Figure 11: Rock Island, or Pinchgut, or Fort Denison, in 1885.

The modern-day Fort Denison is shown in Figure 12. The first tide gauge was installed as Station 65, which operated from 1886 to 1993. It was replaced over a period by Station 196, which operated from 1914 to 2013. An analogue gauge was replaced by a digital gauge in 1996.



Figure 12: View of Fort Denison in Sydney Harbour, looking west through the Sydney Harbour Bridge; Observatory Hill, site of early to modern temperature measurement, is located west of the freeway, behind the Opera House. Point Piper is on the southern shore of the harbour, well to the left of the picture.

## 5: The Tide-gauge sea-level record (continued)

From the gauges there is a continuous recording of sealevels in the harbour of about 130 years, from 1886 to the present. A graphical representation of observations is shown in Figures 13 (Station 65) and Figure 14 (Station 196). This data comes from the Permanent Service for Mean Sea Level, or PSMSL, based in the UK at Liverpool. The data here is also used by NOAA in its contribution to Sea Level discussion.

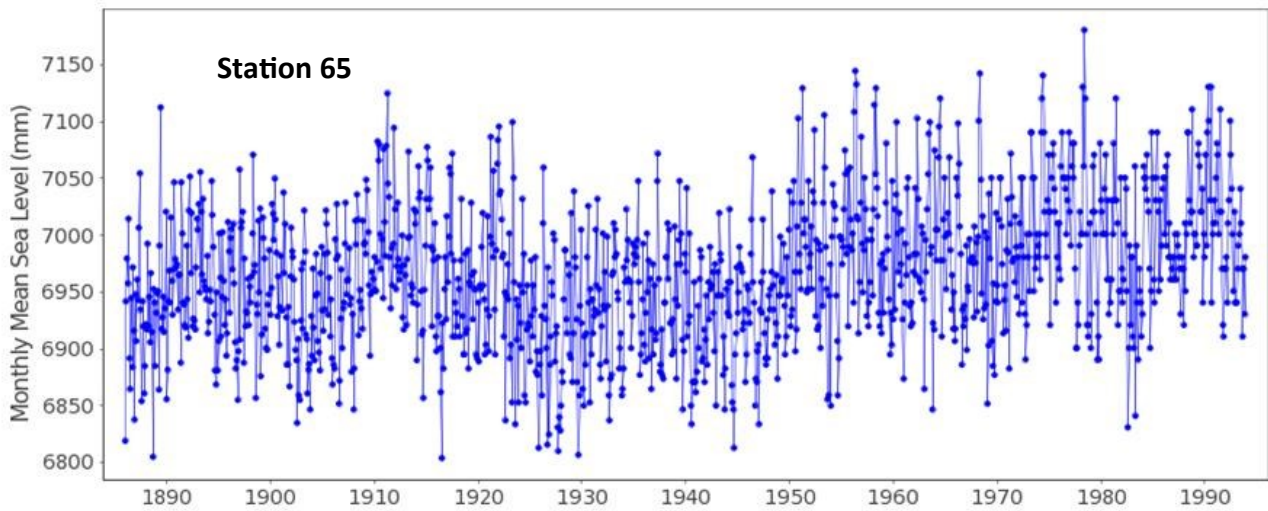


Figure 13: Sea level data from Station 65 at Fort Denison, Sydney Harbour, 1886-1993 —data source PSMSL.

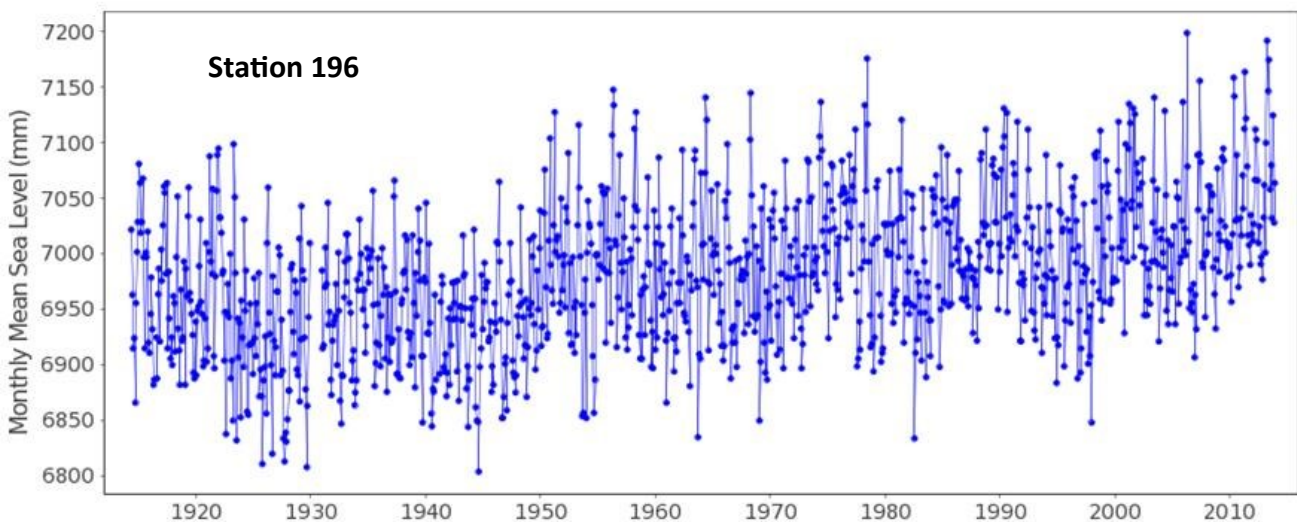


Figure 14: Sea Level data from station 196 at Fort Denison, Sydney Harbour, 1913—2014; data source PSMSL.

Watson (2011) reported that Fort Denison showed sea level rise of 68mm between 1940 and 2000, with a decelerating trend of 0.04mm/yr. You, Lord and Watson (2009) reported a linear regression trend of  $0.63 \pm 0.14$ mm/year, which over a century is 63mm, or about the height of a matchbox.



The NOAA data (<http://tidesandcurrents.noaa.gov>) is shown in Figure 15 below, and appears to combine readings from the two stations 65 and 196 on Fort Denison, providing a sea level record of 121 years from 1886 to 2007. The trend is below the world average of about 2mm/year, and indicates long term stability of the coastal environment in the vicinity of Sydney, in eastern Australia. It is much lower than the estimates of projected sea level rise made by some local councils in Sydney coastal areas based on IPCC and CSIRO estimates of sea level rise. Councils in the area are now reversing this alarmism, and are slowly unbinding restrictive coastal development laws.

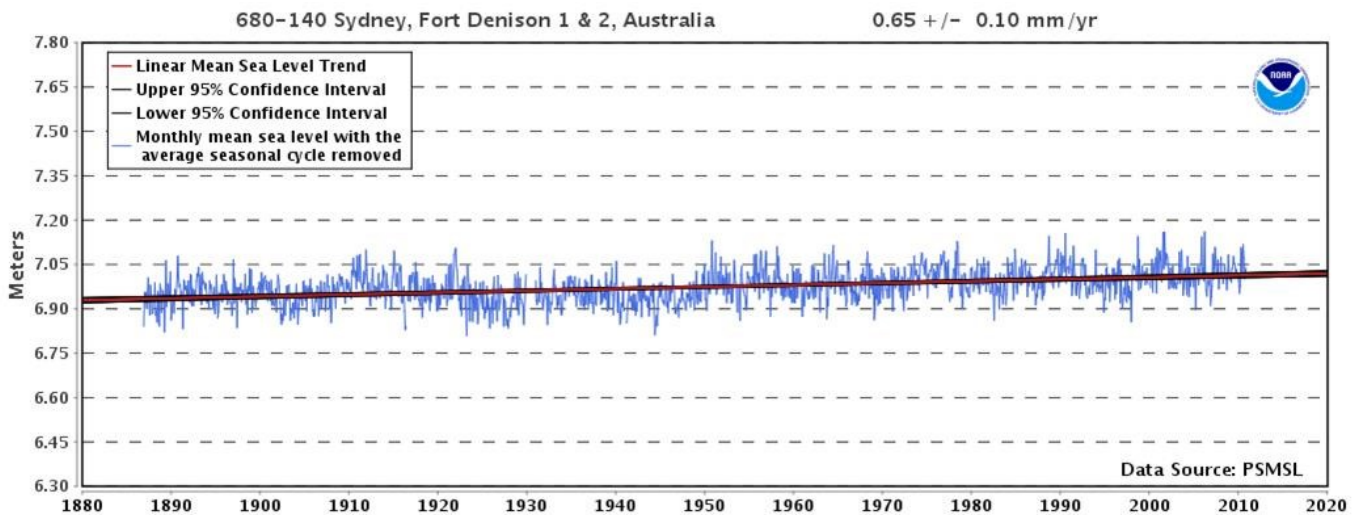


Figure 15: Sea level data combined from two stations on Fort Denison, 1886-2007; the linear regression is given as  $0.65 \pm 0.10$  mm per year (Watson 2011)

**CONCLUSION 2: There has been no dangerous sea level rise from 1886 to the present in the environs of Sydney Harbour—a period of 129 years**

## 6: Sea level observations for Collaroy beach and Long Reef Headland, 1875 to 2014

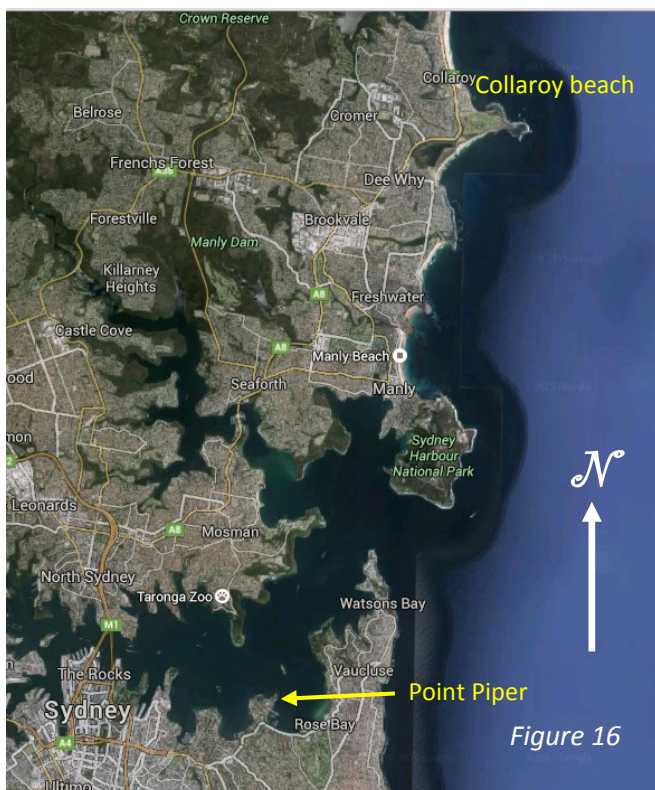


Figure 16

A short ferry ride across the harbour from Point Piper to Manly, thence by road north for a few km would bring Malcolm to Collaroy beach, which nestles just north of Long Reef headland, and is comprised of reddish shales and sandstone capped by the scenic but wind-swept Collaroy golf course—see Figures 16 and 17. View is looking west in Fig. 17.

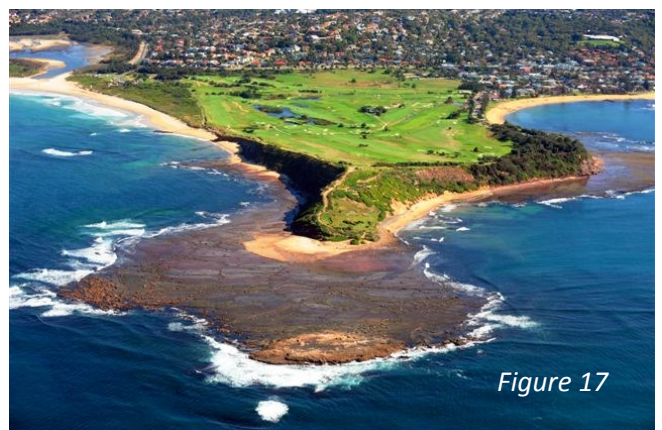


Figure 17

The headland protects Collaroy beach from rough southerly weather, and from the early 1800s fishermen used the lee (northern) shore of Long Reef headland to launch their fishing dinghies for a day on the water, and to pull them safely up the shore after their outing. They constructed a solid hut beside the high water mark in 1875, and this hut remains intact today. Figure 18 shows the hut in the far distance in 1907. It stands as testimony to a very stable sea level in this area of eastern Australia for over 140 years.

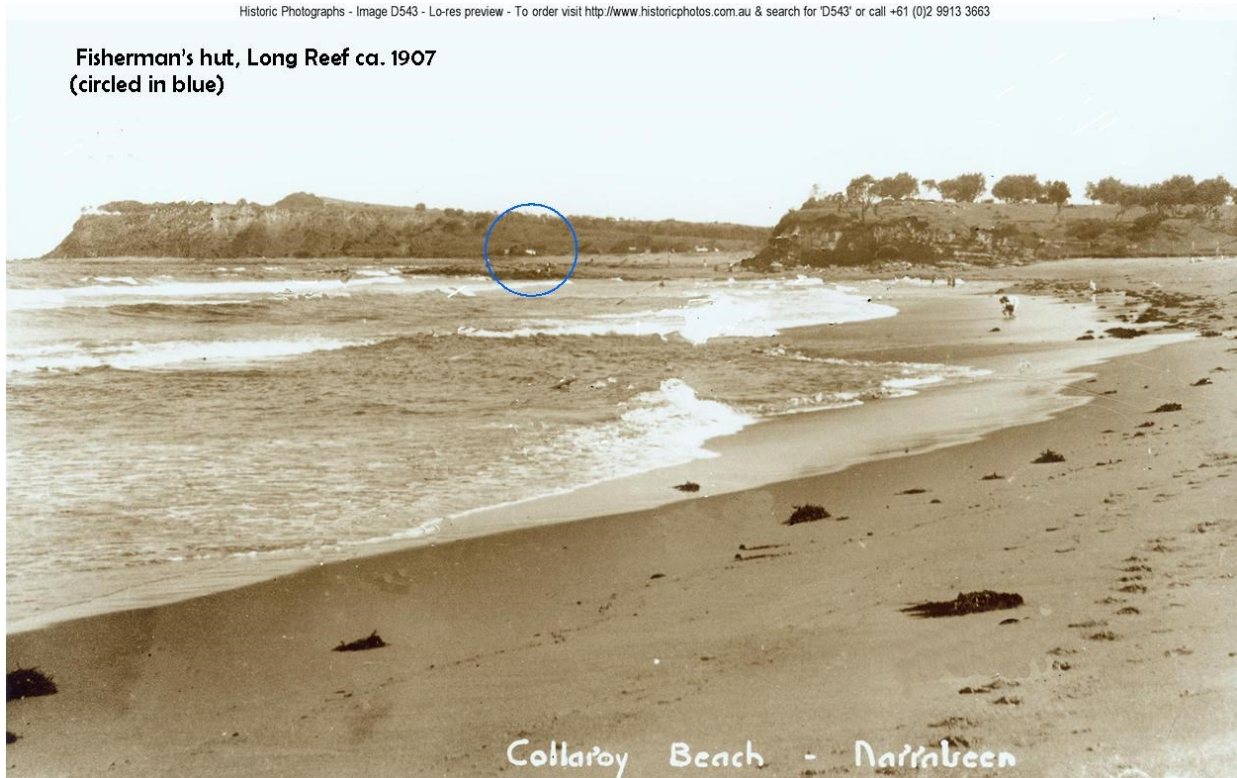


Figure 18: Long view of the Fisherman's Hut at Long Reef, Collaroy—photo taken 1907

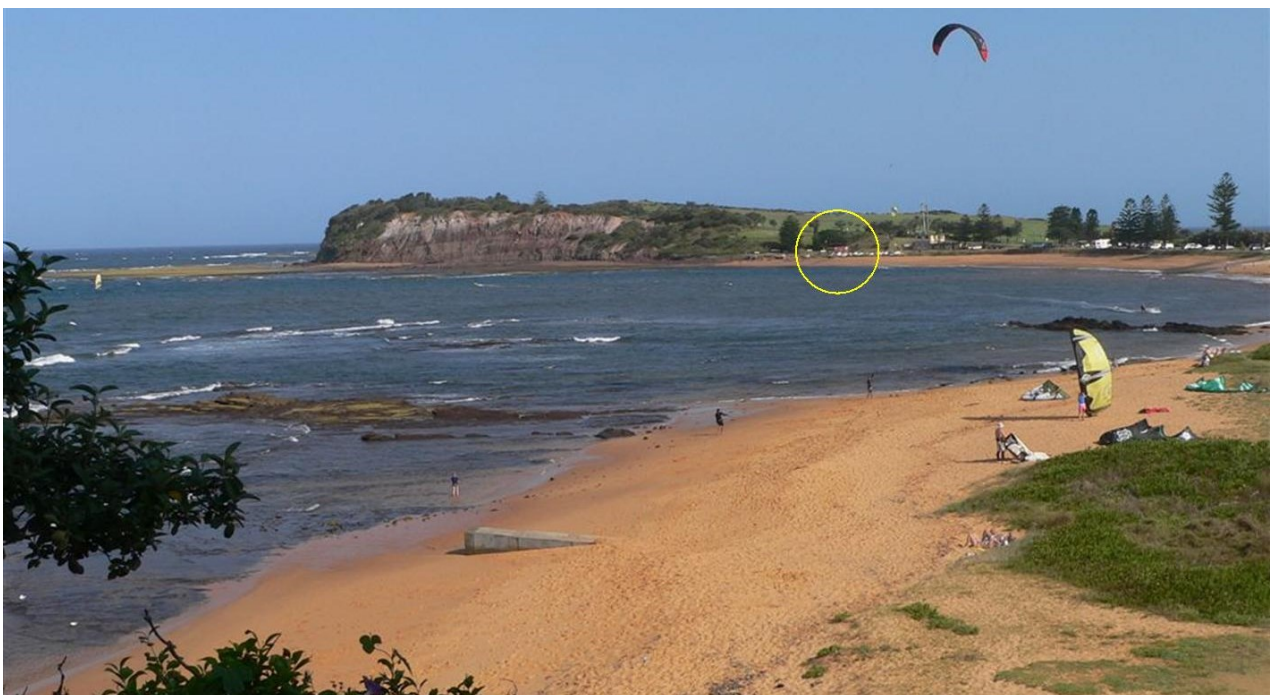


Figure 19: Long view of the Fisherman's Hut at Long Reef, Collaroy—photo taken 2014. There is no obvious change in beach morphology over the period 1907 to 2014

## 6: Sea level observations for Collaroy beach and Long Reef Headland, 1875 to 2014 *(continued)*

Images of the Fisherman's hut built in the 1870s are listed in Warringah Shire archives and reports (e.g. Haskonning Australia Pty Ltd 2014), and Figures 19 and 20 show the hut in 1936 and 1950, respectively. Figure 22 shows a recent image taken in January 2014.



Figure 20: View of the Fisherman's Hut at Long Reef, Collaroy—photo taken 1936



Figure 21: View of the Fisherman's Hut at Long Reef, Collaroy—photo taken 1950s



Figure 22: View of the Fisherman's Hut at Long Reef, Collaroy—photo taken Jan. 2014 (GMD); in all images, the high water mark comes to within 1.5 metre or so of the grassy bank., but there are NO observable effects of any sea level rise, or indeed coastal erosion, in any of these images.

**CONCLUSION 3: In concert with sea level data from Sydney Harbour, casual observation over the 140 year period from 1875 to the present shows there has been no significant sea level rise along the northern beaches of Sydney.**

## 7: CONCLUSIONS and SPEECH TO COP 21, PARIS

As Malcolm Turnbull prepares to fly out to Paris for the Climate conference from 30 November to 11 December 2015, he carries with him the concerns of many Australians, especially conservative voters who fear that he has a green tinge beneath his urbane liberal facade, and may sell Australia down the climate river. It was, after all, Malcolm's belief in an Emissions Trading Scheme that caused him to lose the party leadership to Tony Abbot back in December 2009. Abbot won (and vote to cancel the ETS, 54 to 29).



Malcolm lives on the southern shore of Sydney Harbour, and is perfectly located to absorb and to understand the underlying physical moods of this idyllic coastal location. In this essay we simply bring to his attention that his beloved harbour and adjacent coastline has an extensive data base of weather/climate and sea level data history from 1788 to the present, all of which show that there **HAS BEEN NO SIGNIFICANT CLIMATE CHANGE IN THE SYDNEY AREA FOR THE PAST 200 YEARS OR SO.**

So his address to the delegates at COP 21 Paris should be as follows:-

*Delegates, I bring you good news from Sydney, Australia . Without the need for any computer models, but relying on observational data collected from at least the time of our penal settlement in 1788, I report to you the excellent news that we have observed, as follows:-*

- 1. No change in the trends of monthly maximum and minimum temperatures for a period of 227 years, from 1788 to 2014, and this is reluctantly supported by Messrs Karoly and Gergis, two of our leading alarmists .*
- 2. No significant sea level rise in the harbour for the past 120 years, and what little there has been is about the height of a matchbox over a century.*
- 1. And finally, along the northern beaches of Sydney, there has been no suggestion of any sea level rise there for the past 140 years.*

*Ladies and Gentlemen—please raise your glasses and toast the real heroes of our time—those who call themselves Climate Skeptics. May they flourish for a long time to come, as being proponents of real observation-based science, in stark contrast to the model-driven world of most of you here. With their optimism and integrity, they provide a welcome contrast to the view of bleak ruination of our planet proposed by so many of you here today.*



## References and Citations

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Haskoning Australia Pty Ltd 2014: Collaroy-Narrabeen Beach and Fisherman's Beach, CZMP Appendix A—General description of photos. Report to Warringah Council, 289pp

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Watson, P.J., (2011): Is There Evidence Yet of Acceleration in Mean Sea Level Rise around Mainland Australia?. *Journal of Coastal Research: Volume 27, Issue 2:* pp. 368 – 377.

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[http://tidesandcurrents.noaa.gov/sltrends/sltrends\\_global\\_station.htm;sessionid=D82367E516AA8A6B3EEBDBB0588DBBF3?stnid=680-140](http://tidesandcurrents.noaa.gov/sltrends/sltrends_global_station.htm;sessionid=D82367E516AA8A6B3EEBDBB0588DBBF3?stnid=680-140) – website for NOAA sea level chart for Fort Denison.

## Acknowledgements:

Geoff Derrick acknowledges his first encounter with Gergis et al (2009), which was briefly mentioned by John Ray in his excellent climate blog "GREENIE WATCH" on 5th February 2015. It remains a small mystery as to why the details of the Gergis et al paper have remained so anonymous since 2009.

The temperature record and tidal gauge record of the Sydney area have been discussed throughout 2015 by sceptical observers/essayists/scientists/ geologists such as Dr Bob Carter, Jo Nova on her blog, and Tony Thomas in *Quadrant* magazine. Kim Stanton-Cook, another consultant geologist like myself, introduced me to the joys of the Long Reef Headland at Collaroy in January 2014, and to the sea level history that may be observed there through the history of a humble fisherman's hut.

All errors and omissions are my own. Feedback is welcomed, and alarmists out there should note that I am only weakly charitable to them as a collective, based almost solely on their pseudoscience, exaggerations, and their continued worship of flawed organisations and characters such as the IPCC and Michael Mann, respectively.

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